Installation Manual

Veeder-Root DIM For TLS-350/R Systems

Manual Number 577013-614, Revision B

Dispenser Interface Module (DIM) for TLS-350R Systems

Without 8 Volt Link:
No. 330280-001 (with console)
No. 330280-801 (with console)
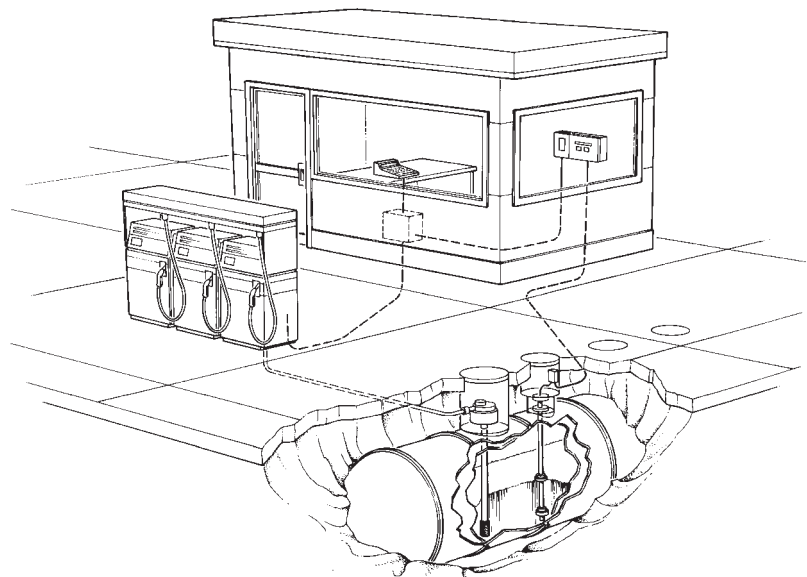No. 847490-340 (without console)
No. 847490-385 (without console)

With 8 Volt Link:
No. 330280-011 (with console)
No. 847490-341 (without console)

Southland ISP Installation Kit
No. 330020-409

VEEDER-ROOT
Environmental Products

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FCC Information

This equipment complies with the requirements in Part 15 of the FCC rules for a Class A computing device. Operation of this equipment in a residential area may cause unacceptable interference to radio and TV reception requiring the operator to take whatever steps are necessary to correct the interference.

Contents

Figures

Introduction

General

This manual contains installation procedures for the Veeder-Root Protocol DIM (Dispenser Interface Module) in existing TLS-350R Consoles with Business Inventory Reconciliation (BIR) designed and manufactured by Veeder-Root.

Important ☞ *In addition to BIR Protocol, Veeder-Root Protocol DIM can also support standard RS-232 Protocol.*

For additional information regarding Interface Modules, refer to the *Veeder-Root TLS-350R System Setup* manual. If this is a new installation or if site preparation is necessary, refer to the *Veeder-Root TLS-350R Site Preparation and Installation Instructions* manual, or contact your Veeder-Root representative for assistance.

Interface Modules

Interface Modules connect the TLS-350R to certain Point-of-Sale (POS) systems. This manual describes the operation, installation, and set-up of the Veeder-Root Protocol DIM.

The Interface Module allows the console to gather relevant dispensing information, including how much product has been dispensed from each fueling station, and reports tank level information to the Point-Of-Sale (POS).

Damage Claims

1. Thoroughly examine all components and units as soon as received. If damaged, write a complete and detailed description of the damage on the face of the freight bill. The carrier's agent *must* verify the inspection and sign the description.
2. Immediately notify the delivering carrier of damage or loss. This notification may be given either in person or by telephone. Written confirmation must be mailed within 48 hours. Railroads and motor carriers are reluctant to make adjustments for damaged merchandise unless inspected and reported promptly.
3. Risk of loss, or damage to merchandise remains with the buyer. It is the buyer's responsibility to file a claim with the carrier involved.
4. Immediately advise your Veeder-Root representative, distributor, or the factory so that we may assist you.

Return Shipping

All product returns, including warranty replacements, repairs, and core credits, must be returned on an RGA (Returned Goods Authorization) for proper processing. To return a product under this procedure:

1. Call Customer Service at (800) 873-3313 to obtain an RGA number.
2. Clearly print the RGA number on the packages being returned. No package can be received without this number.
3. All shipments of Veeder-Root products must be prepaid.
4. If the WPLLD system is damaged, return it in the original shipping container with shock absorbing material provided. Veeder-Root will accept no liability for damage caused by improper packing.
5. Address the shipment to Veeder-Root Co., 6th Avenue at Burns Crossing, Altoona, Pennsylvania 16602.
6. All warranty returns must also include a legible WSR (warranty service report). Problem description and corrective action must be filled out in detail.

National Electrical Code Compliance

The following information is for general reference and is not intended to replace recommended National Electric Code (NEC) procedures. It is important for the installer to understand that electrical equipment and wiring located in Class I, Division 1 and 2 installations shall comply with the latest appropriate Articles found in the National Electric Code (NFPA 70) and the Automotive and Marine Service Station Code (NFPA 30A).

Safety Symbols

The following safety symbols may be used throughout this manual to alert you to important safety hazards and precautions.

Explosive

Fuels and their vapors are extremely explosive if ignited.

Electricity

High voltage exists in, and is supplied to, the device. A potential shock hazard exists.

Turn Power Off

Live power to a device creates a potential shock hazard. Always turn power off to the device and associated accessories when servicing the unit.

Read All Related Manuals

Knowledge of all related procedures before you begin work is important. Read and understand all manuals thoroughly. If you do not understand a procedure, ask someone who does.

⚠ WARNING	
	You are working with a device in which potentially lethal voltages may be present.
	Death or injury may result if safety precautions are not followed.
	1. **Read all instructions and symbol warnings.** 2. **Turn power off before installing this kit.**

Hardware and Software Requirements

Table 1. Hardware and Software Requirements Table

If you have:	Installation Kit 330020-409	TLS-350	TLS-350R
330280-001 847490-340 330280-801 847490-340	Not Compatible *See Note	Not Compatible	Required with Version 349511-xxx-A or later
330280-801 847490-385	Required	Required with Version 346117-C or later	Not Required

Note: Interface Module Installation Kits are supplied by third party manufacturers.

Important ☞ *A maximum of three modules of any type can be used in the communication compartment, but there must be an open communications slot available (either slot 1, 2, or 3). The module is to be installed in only the communications interface area of the console.*

Communications interface module expansion slots 3 and 4 CANNOT be used at the same time, unless they are occupied by the RS-232 with auxiliary port interface module. Equipment malfunction will result if both slots are used.

Verifying System Features

Refer to the "Verifying System Features" section below to determine if your system supports the BIR feature. Once you have determined your system's capabilities, refer to the appropriate "Software Requirements" section below.

1. Press the MODE key until the front panel display reads:

```
DIAG MODE
PRESS <FUNCTION> TO CONT
```

2. Press the FUNCTION key until the front panel display reads:

```
SYSTEM DIAGNOSTIC
PRESS <STEP> TO CONTINUE
```

3. Print out a description of the software currently in your system. Press the PRINT key and the printer prints:

```
SOFTWARE REVISION LEVEL
VERSION XXX.XX
SOFTWARE# XXXXXX-XXX-XXX
CREATED - YY.MM.DD.HH.MM

S-MODULE# XXXXXX-XXX-X
SYSTEM FEATURES:
  PERIODIC IN-TANK TESTS
  ANNUAL IN-TANK TESTS
  CSLD
  BIR
  FUEL MANAGER
  PRECISION PLLD
```

4. Press the MODE key to return to the main screen:

```
MMM DD, YYYY HH:MM:SS XM
ALL FUNCTIONS NORMAL
```
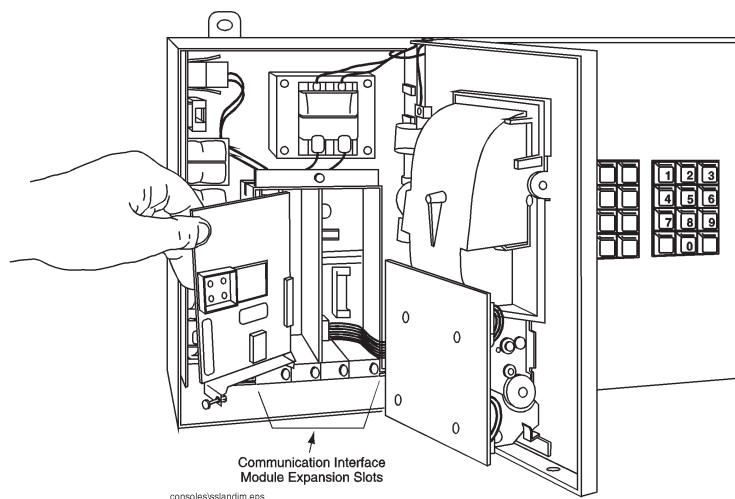
Installation

Module DIM Installation

For additional information regarding the below steps, refer to the Veeder-Root TLS-350/R *Site Preparation and Installation Instructions* manual.

1. Read and follow all instructions carefully.

2. Open the left-hand door of the TLS-350R console by unscrewing the left-top and left-bottom locking bolts.

3. To retain current programming, be sure that the ECPU board battery switch is set to "ON" (see Figure 2 on page 8). To avoid electrical shock or damage to components when accessing the battery switch, avoid touching any circuit components with your hands, conductive tools, or metallic jewelry.

4. Turn console power off before installing the kit.

5. Avoid shorting high voltage across any component or module to the intrinsically safe section of the console. This action could result in an explosion.

6. Remove the existing retaining bracket panel from the communication compartment. One interface module can accept one communications cable.

7. Hold the interface module with its snap-in fastener positioned at the lower edge and carefully slide the module into its slot (see Figure 1).The following shows placement of a Dispenser Module Card into a module expansion slot (can only be installed in slots 1, 2, or 3):

Communication Interface
Module Expansion Slots

consoles\sslandim.eps

Figure 1. Module DIM Installation

8. To secure the module, press down on the snap-in fastener until its connector engages completely with the connector on the board. Do not apply excessive force when installing the module.

9. BE SURE ALL UNUSED SLOTS at the bottom of the communication compartment ARE COVERED!

10. Check to see that the three position interface module connector is accessible through the slot opening at the bottom of the console once installation is complete.

Front Panel Display Enabled
(DIP Switch 3 in the OPEN position)
HRM Features (Europe Only) - Enabled
(DIP Switch 3 in the CLOSED position)

DIP rocker switch 4 - Unused

RS-232 Security Code
Disabled (DIP Switch 2
in the OPEN position)

Battery Backup Switch -
Shown in OFF position
(down)

Front Panel Security Code
Disabled (DIP Switch 1
in the OPEN position)

1 2 3 4
— OPEN —
SW2   SW1

DIP rocker switches:
OPEN position - open end down, number end up
CLOSED position - open end up, number end down

consoles\ecpubbsw.eps

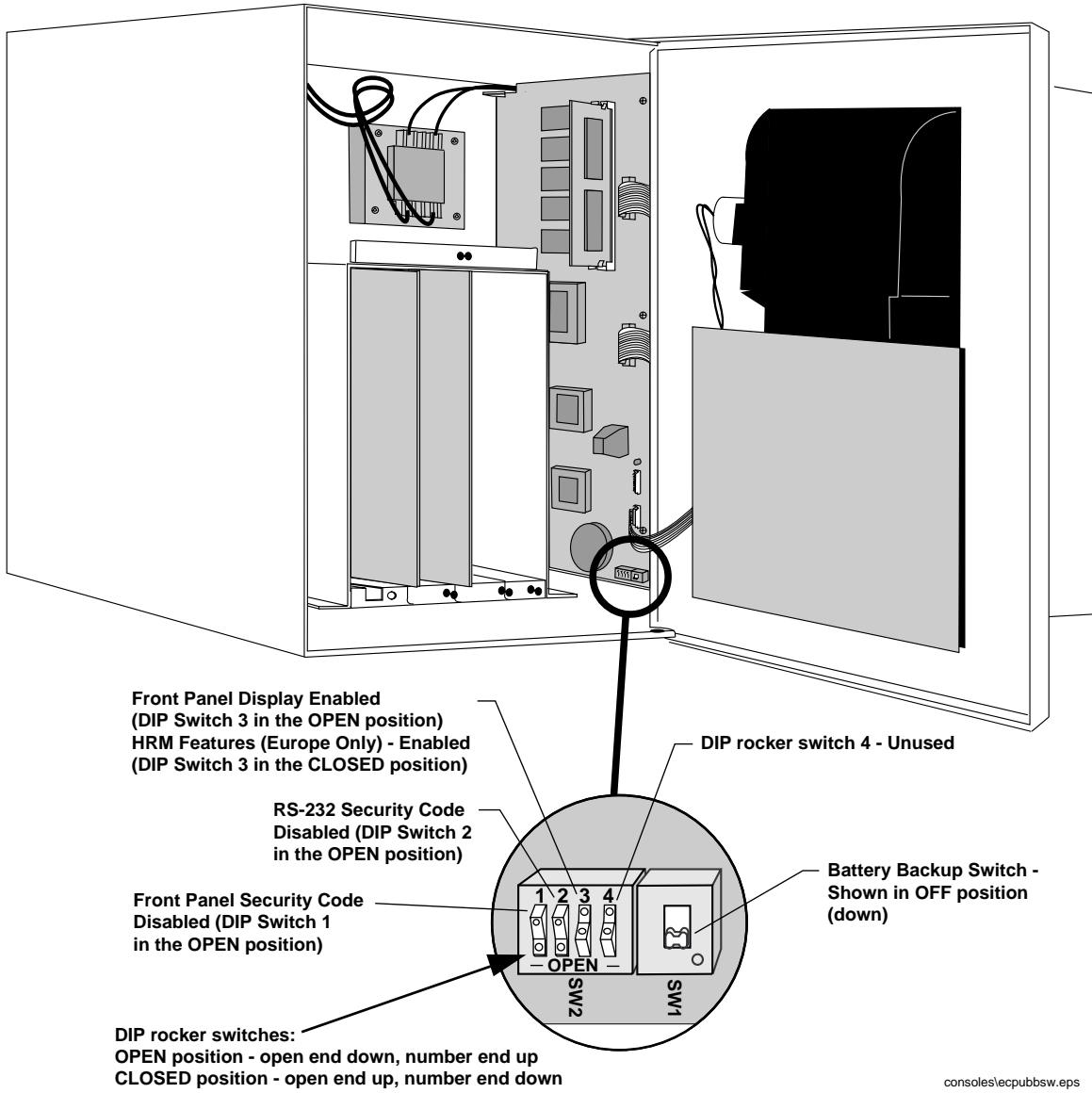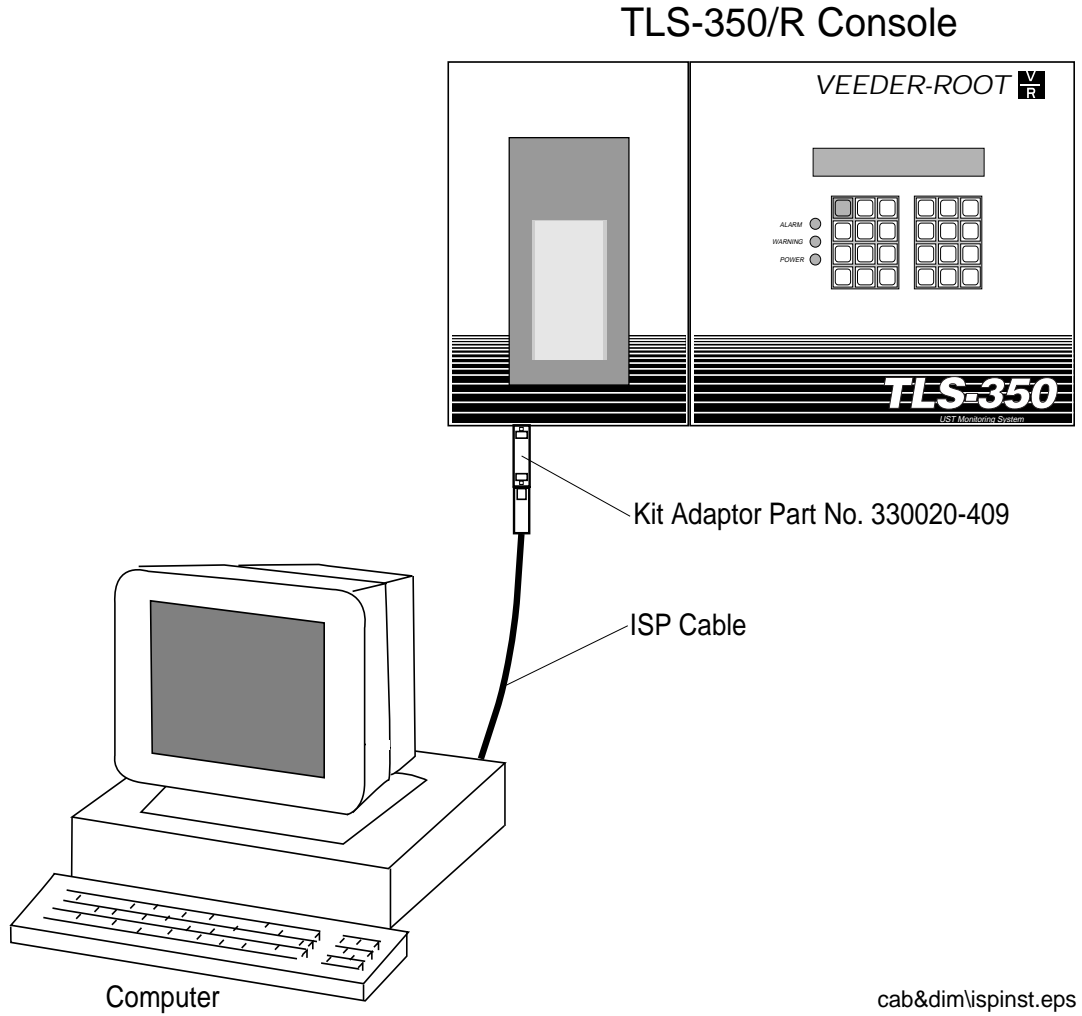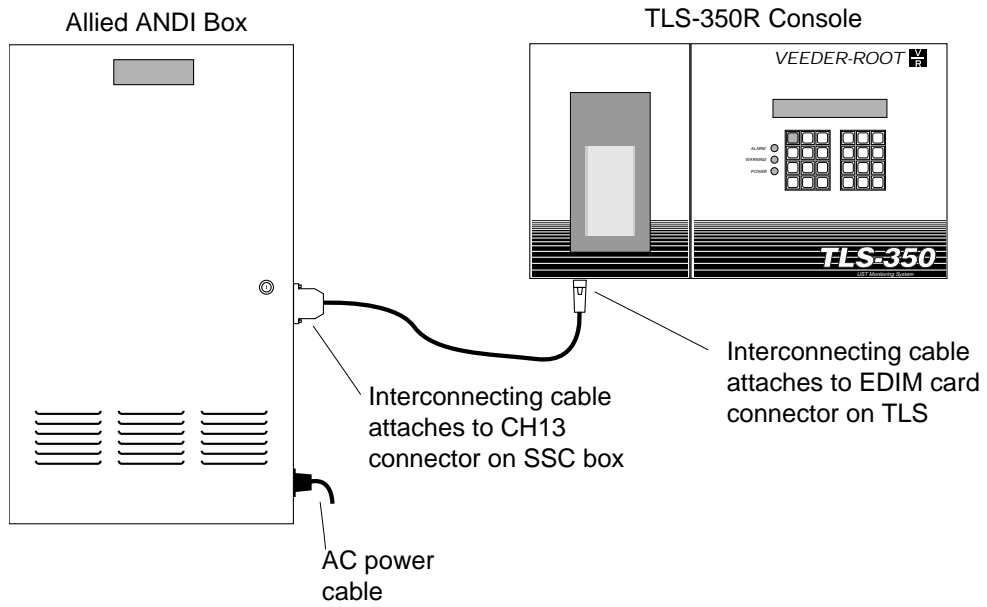**Figure 2.** ECPU Board Battery Switch ON (SW1)

Kit #330020-409

Attach adaptor provided in kit to 25 pin female connector on DIM. Attach ISP serial cable to adaptor. (Refer to Figure 3 below)

Note: Used only with PN 330280-801 and PN 847490-385.

TLS-350/R Console

Kit Adaptor Part No. 330020-409

ISP Cable

Computer

cab&dim\ispinst.eps

Figure 3. Diagram for Southland ISP Installation

Allied ANDI Box   TLS-350R Console

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TLS-350

Interconnecting cable
attaches to EDIM card
connector on TLS

Interconnecting cable
attaches to CH13
connector on SSC box

AC power
cable

Pin to Pin of Interconnecting Cable (25 DBM)

Female (@SSC)   Male (@TLS)

2 ———————— 2
3 ———————— 3
4   4
5   5
6   6
7 ———————————— 7
8   N/C   N/C 8
9   N/C   N/C 9
10 N/C   N/C 10
11   N/C 11
12 N/C   N/C 12
13 N/C   N/C 13
14 N/C   N/C 14
15 N/C   N/C 15
16 N/C   N/C 16
17 N/C   N/C 17
18 N/C   N/C 18
19 N/C   N/C 19
20 N/C   N/C 20
21 N/C   N/C 21
22 N/C   N/C 22
23 N/C   N/C 23
24 N/C   N/C 24
25 N/C   N/C 25

cab&dim\alldssc.eps

Figure 4. Allied Station Site Controller Installation with 25 Pin D-Connection

Communications Parameters Setup

TLS-350R

To select Reconciliation Setup, which is available for the TLS-350R console only, press FUNCTION until you see the message:

> RECONCILIATION SETUP
> PRESS <STEP> TO CONTINUE

Press STEP to continue.

Electronic Dispenser Module Data String

If necessary, press STEP until you see the message:

> DISP. MODULE DATA STRING
> EDIM#X: XXXXXXXX

Important ☞ *The device code for the DIM module is "E" for Electronic Dispenser Interface Module (EDIM).*

When an EDIM is installed, the system will recognize its presence and position in the Communications Interface Area of the system console.

To enter a dispenser module data string, press CHANGE, enter a valid DIM description selected from the tables below that corresponds to the type of interface module on your system. The system accepts up to twelve alphanumeric characters. If no data is entered, the DIM defaults are used. For DIM setup strings, refer to the *DIM Installation Manual.*

After entering your description, press ENTER. They system confirms your entry with the following message:

> EDIM#X: [Description]
> PRESS <STEP> TO CONTINUE

If more than one DIM is installed, the system will automatically advance to the next module when setup for one is complete. You can also press TANK to select a specific module. When all DIM modules have been set up, press STEP to advance to the next feature.

TLS-350

Diagnostics Mode:

Diagnostics are indicators of the current and past conditions of the system.

To access the Diagnostic Mode (starting from the ALL FUNCTIONS NORMAL screen) press MODE until you see the message:

```
DIAG MODE
PRESS <FUNCTION> TO CONT
```

Press FUNCTION until you see the message:

```
SYSTEM DIAGNOSTIC
PRESS <STEP> TO CONTINUE
```

Press STEP until you see the message:

```
DIM DIAGNOSTIC DATA
PRESS <ENTER> TO CONTINUE
```

Press ENTER until you see the message:

```
E 1: SWARE#
CREATED-
```

Important ☞ *Press TANK/SENSOR to toggle between DIM cards (if more than one is installed).*

Press MODE to return to the Main Screen.

Electronic Dispenser Module Data String:

If necessary, press STEP until you see the message:

```
DISP. MODULE DATA STRING
EDIM#X: XXXXXXXX
```

Important ☞ *The device code for the DIM module is "E" for Electronic Dispenser Interface Module (EDIM).*

When an EDIM is installed, the system will recognize its presence and position in the Communications Interface Area of the system console.

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After entering your description, press ENTER. They system confirms your entry with the following message:

```
EDIM#X: [Description]
PRESS <STEP> TO CONTINUE
```

If more than one DIM is installed, the system will automatically advance to the next module when setup for one is complete. You can also press TANK to select a specific module. When all DIM modules have been set up, press STEP to advance to the next feature.

EDIM Setup Values

Table 2 lists the setup values that the system will accept. Enter the appropriate alphanumeric data string identified with each parameter. (For example, B2VEHM which gives a setup of 2400 Baud Rate, 7 Data Bits, Even Parity, top Bit, and Metric.

Table 2. EDIM Setup Data

BAUD RATE		NUMBER OF DATA BITS		PARITY		NUMBER OF STOP BITS		CONVERSION	
String	Rate	String	Rate	String	Type	String	Stop Bits	String	Units
B9	9600	V	7	N	No Parity	H	1	G	U.S. Gallons
B4	4800	D	8	E	Even	S	2	M	Metric (Liters)
B2	2400			O	Odd			I	Imperial Gallons
B1	1200								
B6	600								
B3	300								
BG	. . .								

Default Settings:

Important ☞ *TLS-350R*: *Default Settings are 9600 Baud Rate, 7 Data Bits, Odd Parity, 1 Stop Bit, and Metric.*
Southland Default Settings are 1200 Baud Rate, 7 Data Bits, Even Parity, 1 Stop Bit, and U. S. Gallons.

EDIM RS-232 Connections

The RS-232 D-connector is a panel mount, 25-pin female type, wired in a Data Terminal Equipment (DTE) configuration. A modem (DCE) may be connected directly

to the interface using a straight-through cable. A CRT or printing terminal (DTE) may be connected to the interface by using a null cable which reverses the sense of the transmit/receive signals. The system does not require or activate any handshake signals.

Table 3. RS-232 Signals Wired to Female 25-PIn D-Connector

FEMALE 25-PIN D-CONNECTOR	RS-232 SIGNALS
2	Transmitted Data
3	Received Data
7	Signal Ground (common return) and Chassis

Diagnostic Mode

Diagnostics are indicators of the current and past conditions of the system.

To access the Diagnostic Mode (starting from the ALL FUNCTIONS NORMAL screen) press MODE until you see the message:

```
DIAG MODE
PRESS <FUNCTION> TO CONT
```

Press FUNCTION until you see the message:

```
SYSTEM DIAGNOSTIC
PRESS <STEP> TO CONTINUE
```

Press STEP until you see the message:

```
DIM DIAGNOSTIC DATA
PRESS <ENTER> TO CONTINUE
```

Press ENTER until you see the message:

```
E 1: SWARE#
CREATED-
```

Important ☞ *Press TANK/SENSOR to toggle between DIM cards (if more than one is installed).*

Press MODE to return to the Main Screen.

Warranty Conditions and Limitations of Liability

Limitations Of Liability

We warrant that this product will be free from defects in materials and workmanship for a period of 1 year from the date of installation or 24 months from the date of invoice, whichever occurs first. During the warranty period, we or our representative will repair or replace the product, if determined by us to be defective, at the location where the product is in use and at no charge to the purchaser.

We shall not be responsible for any expenses incurred by the user.

This warranty applies only when the product is installed in accordance with Veeder-Root's specifications, and a Warranty Registration and Checkout Form has been filed with Veeder-Root by an Authorized Veeder-Root Distributor. This warranty will not apply to any product which has been subjected to misuse, negligence or accident; or misapplied; or used in violation of product manuals, instructions or warnings; or modified or repaired by unauthorized persons; or improperly installed.

Inspection

You shall inspect the product promptly after receipt and shall notify us at our Simsbury office in writing of any claims, including claims of breach of warranty, within 30 days after you discover or should have discovered the facts upon which the claim is based. Your failure to give written notice of a claim within the time period shall be deemed to be a waiver of such claim.

Limitation of Remedy and Warranty

The provisions of "Limitations Of Liability" on page 17 are our sole obligation and exclude all other remedies or warranties, express or implied, including warranties of MERCHANTABILITY and FITNESS FOR A PARTICULAR PURPOSE, whether or not purposes or specifications are described herein. We further disclaim any responsibility whatsoever to you or to any other person for injury to person or damage to or loss of property or value caused by any product which has been subjected to misuse, negligence, or accident; or misapplied; or used in violation of product manuals, instructions or warnings; or modified or repaired by unauthorized persons; or improperly installed.

Limitation of Damages

Under no circumstances shall we be liable for any incidental, consequential or specific damages, losses or expenses arising from this contract or its performance or in connection with the use of, or inability to use, our product for any purpose whatsoever.

Limitation of Actions

No action regardless of form arising out of this contract may be commenced more than 1 year after the cause of action has accrued, except an action for nonpayment.

Collateral Promises

There are no representations, warranties, or conditions, express or implied, statutory or otherwise except those herein contained, and no agreement or waivers collateral hereto shall be binding on either party unless in writing and signed by you and accepted by us at our Simsbury office.

Interpretation

Rights and liabilities arising out of any contract with us shall be determined under the Uniform Commercial Code as enacted in Connecticut.

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